WHAT IS CLAIMED IS:

1. A method of processing congestion conditions of a MTP user part in a SS7 network, comprising:

(a) defining a user part congested (UPC) message that indicates when congestion has occurred in a MTP user part of a destination signaling point; a MTP_STATUS primitive to reduce a number of the signaling messages to be transmitted to the congested MTP user part;

(b) generating the UPC message, and transmitting the generated UPC message to an originating signaling point of the signaling message when a MTP of the destination signaling point recognizes congestion conditions of the MTP user part of the destination signaling point; and

(c) generating the MTP_STATUS primitive, and transmitting the generated MTP_STATUS primitive to a MTP user part of the originating signaling point to request the MTP user part of the originating signaling point to reduce the number of the signaling messages to be transmitted to the congested MTP user part of the destination signaling point.

2. The method of claim 1, wherein the MTP_STATUS primitive is generated in accordance with parameters of the received UPC message.

3. The method of claim 1, wherein the UPC message comprises a congestion level, representing a degree of congestion in the MTP user part, a user part ID, representing information about the MTP user part for the signaling message to be transferred, and a signaling point code, representing a signaling point to which the congested MTP user part belongs.

4. The method of claim 3, wherein the signaling point code is a destination point code.

5. The method of claim 1, wherein the MTP_STATUS primitive comprises an affected destination user point code (APC), representing a code of a signaling point to which the congested MTP user part belongs, a Cause value, representing information about the cause for the UPC message being transmitted to the originating signaling point, and a congestion level, representing a degree of congestion in the MTP user part.

6. The method of claim 1, wherein step (b) comprises:

(d) determining whether or not a destination signaling point of a signaling message transmitted from an adjacent signaling point is the signaling point to which the MTP belongs when the corresponding MTP receives the signaling message from the adjacent signaling point;

(e) determining whether or not a MTP user part exists for the received signaling message to be transferred if the destination signaling point of the received signaling message is the signaling point to which the MTP belongs;

(f) determining whether or not the MTP user part of the destination signaling point is congested, if the MTP user part for the received signaling message to be transferred exists and the MTP user part is available;

(g) determining whether or not it is necessary for the MTP of the destination signaling point transmit the UPC message to the originating signaling point of the received signaling message, if the MTP user part of the destination signaling point is congested; and

(h) transmitting the UPC message to the originating signaling point if it is determined that it is necessary that the MTP of the destination signaling point transmit the UPC message to the originating signaling point.

7. The method of claim 6, wherein step (g) comprises:

(i) determining whether or not the signaling message transferred to the congested MTP user part includes a prescribed number of the signaling messages; and

(j) transmitting one UPC message to the originating signaling point if it is determined that the signaling messages transferred to the MTP user part include the prescribed number of signaling messages.

8. The method of claim 7, wherein step (j) further comprises deciding not to transmit the UPC message to the originating signaling point if it is determined that the signaling messages transferred to the MTP user part do not include the prescribed number of signaling messages.

9. The method of claim 7, wherein the prescribed number of signaling messages is set to a level such that the originating signaling point is informed that congestion has occurred in the MTP user part of the destination signaling point without applying a load to the SS7 network.

10. The method of claim 6, wherein step (f) further comprises:

discarding the received signaling message and transmitting a UPU message indicating that the MTP user part of the destination signaling point is not available to the originating signaling point of the discarded signaling message, if it is determined that the MTP user part for the received signaling message to be transferred does not exist or is not available.

11. The method of claim 1, wherein step (c) comprises:

(k) determining whether or not a signaling message received by the MTP of the originating signaling point is a MTP signal network managing message;

(l) determining whether or not the received signaling message is the UPC message, if the received signaling message is the MTP signal network managing message;

(m) generating the MTP_STATUS primitive based on the UPC message, if the received signaling message is the UPC message;

(n) transmitting the generated MTP_STATUS primitive to the MTP user part of the originating signaling point to request the MTP user part of the originating signaling point to reduce the number of the signaling messages to be transmitted to the congested MTP user part of the destination signaling point; and

(o) reducing the number of the signaling messages to be transmitted from the MTP user part of the originating signaling point to the congested MTP user part of the destination signaling point.

12. The method of claim 11, wherein step (m) comprises:

(p) generating a signaling point code of the MTP_ STATUS primitive using a destination parameter of the UPC message; and

(q) generating a congestion level of the MTP_ STATUS primitive using a congestion level parameter value of the UPC message.

13. A method of processing congestion conditions of a MTP user part in a SS7 network, comprising:

(a) informing an originating signaling point that congestion has occurred in a MTP user part of a destination signaling point for a signaling message when a MTP of the destination signaling point recognizes the congestion conditions of the MTP user part of the destination signaling point; and

(b) reducing a number of signaling messages to be transmitted from a MTP of the originating signaling point to the MTP user part of the congested destination signaling point in response to a request for reduction from a corresponding MTP user part of the originating signaling point.

14. The method of claim 13, wherein step (a) comprises:

(c) determining whether or not the congestion has occurred in the MTP user part of the destination signaling point for the signaling message to be transferred;

(d) determining whether or not it is necessary to inform the originating signaling point of the signaling message of the congestion conditions of the MTP user part of the destination signaling point, if the MTP user part of the destination signaling point is congested;

(e) transmitting a message having a prescribed format to the originating signaling point indicating that congestion has occurred in the MTP user part of the destination signaling point, if it is determined that it is necessary to inform the originating signaling point of the signaling message of the congestion conditions.

15. The method of claim 14, wherein the prescribed message format comprises a congestion level, representing a degree of the congestion conditions, a user part ID, representing information about the MTP user part for the signaling message to be transferred, and a signaling point code, representing a signaling point to which the congested MTP user part belongs.

16. The method of claim 15, wherein the signaling point code is a destination point code.

17. The method of claim 14, wherein the step (d) comprises:

(f) determining whether or not the signaling message transferred to the congested MTP user part includes a prescribed number of signaling messages; and

(g) deciding to transmit the message having the prescribed format to the originating signaling point of the received signaling message if it is determined that the signaling message transferred to the MTP user part includes the prescribed number of the signaling messages.

(h) deciding not to transmit the message having the prescribed format to the originating signaling point of the received signaling message if the signaling message transferred to the MTP user part does not include the prescribed number of signaling messages.

18. The method of claim 17, wherein the prescribed number of signaling messages is set to a level such that the originating signaling point is informed that congestion has occurred in the MTP user part of the destination signaling point without applying a load to the SS7 network.

19. The method of claim 17, wherein the prescribed number of signaling messages is reset when the MTP of the destination signaling point transmits the message having the prescribed format to the originating signaling point.

20. The method of claim 14, wherein step (a) further comprises:

determining whether or not a destination signaling point of a signaling message transmitted from an adjacent signaling point is the signaling point to which the MTP itself belongs when the corresponding MTP receives the signaling message from the adjacent signaling point;

determining whether or not a MTP user part exists for the received signaling message to be transferred, if the destination signaling point of the received signaling message is the signaling point to which the MTP itself belongs;

determining whether or not the MTP user part for the received signaling message to be transferred is available, if the MTP user part exists.

21. The method of claim 13, wherein step (b) comprises:

informing a MTP of the originating signaling point of the congestion conditions of the MTP user part of the destination signaling point;

generating a primitive having a prescribed format to request the MTP user part of the originating signaling point to reduce the number of the signaling messages to be transmitted to the congested MTP user part of the destination signaling point in accordance with the congestion information provided to the MTP of the originating signaling point.

22. The method of claim 21, wherein the primitive comprises an affected destination user point code (APC), representing a code of the destination signaling point to which the congested MTP user part belongs, a cause value, including information about the reason why the UPC message has been transmitted to the originating signaling point, and a congestion level, representing a degree of congestion in the congested MTP user part.

23. The method of claim 21, wherein step (b) further comprises reducing the number of signaling messages to be transmitted to the MTP user part of the originating signaling point that has received the primitive having the prescribed format to the congested MTP user part of the destination signaling point.

24. A message transfer part (MTP) user part signaling message used to indicate congestion of a destination signaling point to a origination signaling point in a common channel signaling network, comprising:

a congestion level parameter, indicating a degree of congestion in the MTP user part;

a user part identification parameter, identifying the congested MTP user part;

a destination code, identifying a signaling point to which the congested MTP user part belongs; and

a routing label, indicating information for the message to be routed.

25. The MTP user part signaling message of claim 24, wherein the origination signaling point is configured to generate a MTP_STATUS primitive in accordance with the parameters of the MTP user part signaling message when the origination signaling point receives the MTP user part signaling message.

26. The MTP user part signaling message of claim 24, wherein the congestion level parameter comprises 4 bits.

27. The MTP user part signaling message of claim 24, further comprising a first header code, H0, and a second header code, H1, which include coding values representing the MTP user part signaling message.

28. The MTP user part signaling message of claim 27, wherein values of the first and second header code are selected from values not used by the Q.704 recommendation of the ITU-T.

29. A message transfer part (MTP) user part signaling message used to indicate congestion of a destination signaling point to an origination signaling point in a common channel signaling network, comprising:

means for identifying a congestion level in a congestion level parameter indicating a degree of congestion in the MTP user part;

means for identifying a user part indicating the congested MTP user part;

means for identifying a destination code indicating a signaling point to which the congested MTP user part belongs; and

means for setting a routing label indicating information for the message to be routed.

30. A method of reducing the number of signaling messages to be transmitted from an origination point to a congested destination point in a common signaling network, comprising:

receiving a User Part Congested (UPC) signal from an adjacent signaling point;

generating an MTP_STATUS primitive in accordance with parameters from the UPC signal;

transmitting the MTP_STATUS primitive to a corresponding MTP user part to reduce a number of signaling messages to be transmitted to the congested destination point.

31. The method of claim 30, wherein the MTP_STATUS primitive is formed by:

filling an APC parameter with a destination parameter value of the UPC message;

filling a cause parameter with a coding value representing a cause for the destination signaling point to have transmitted the UPC signal;

filling a level parameter with a congestion level parameter from the UPC message to indicate the level of the congestion.

32. The method of claim 30, wherein the MTP_STATUS primitive comprises:

an affected destination user point code (APC), representing a code of a congested signaling point that generated the UPC message;

a Cause parameter, indicating a cause that is transmitted as part of the UPC message; and

a Level parameter, indicating a congestion level.

33. The method of claim 30, wherein the UPC message comprises:

a congestion level parameter, to indicate a degree of congestion in the MTP user part;

a user part identification parameter, to identify the congested MTP user part;

a destination code, to identify a signaling point to which the congested MTP user part belongs; and

a routing label, to indicate information for the message to be routed.